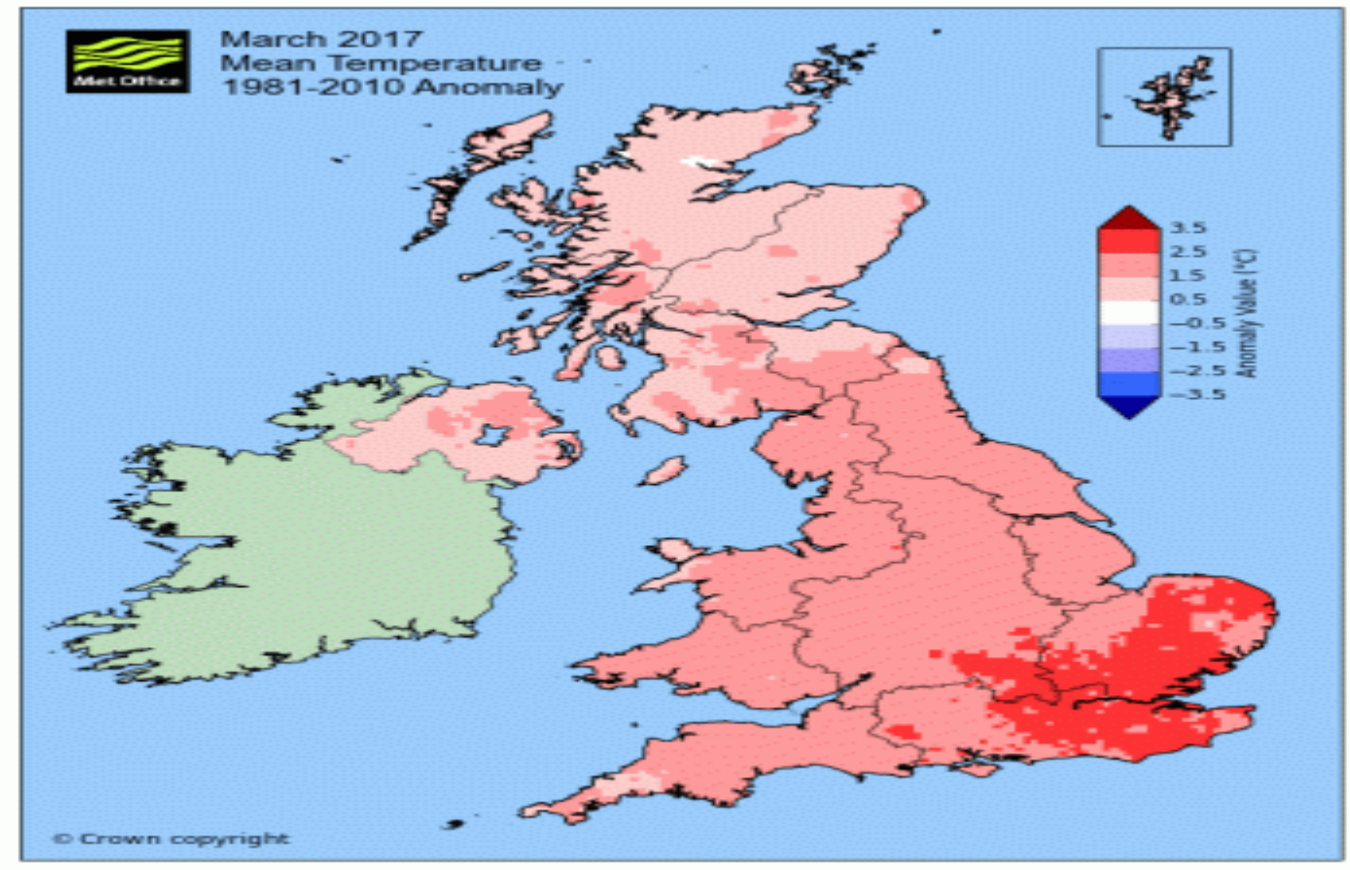
One of the mildest March’s for the South East

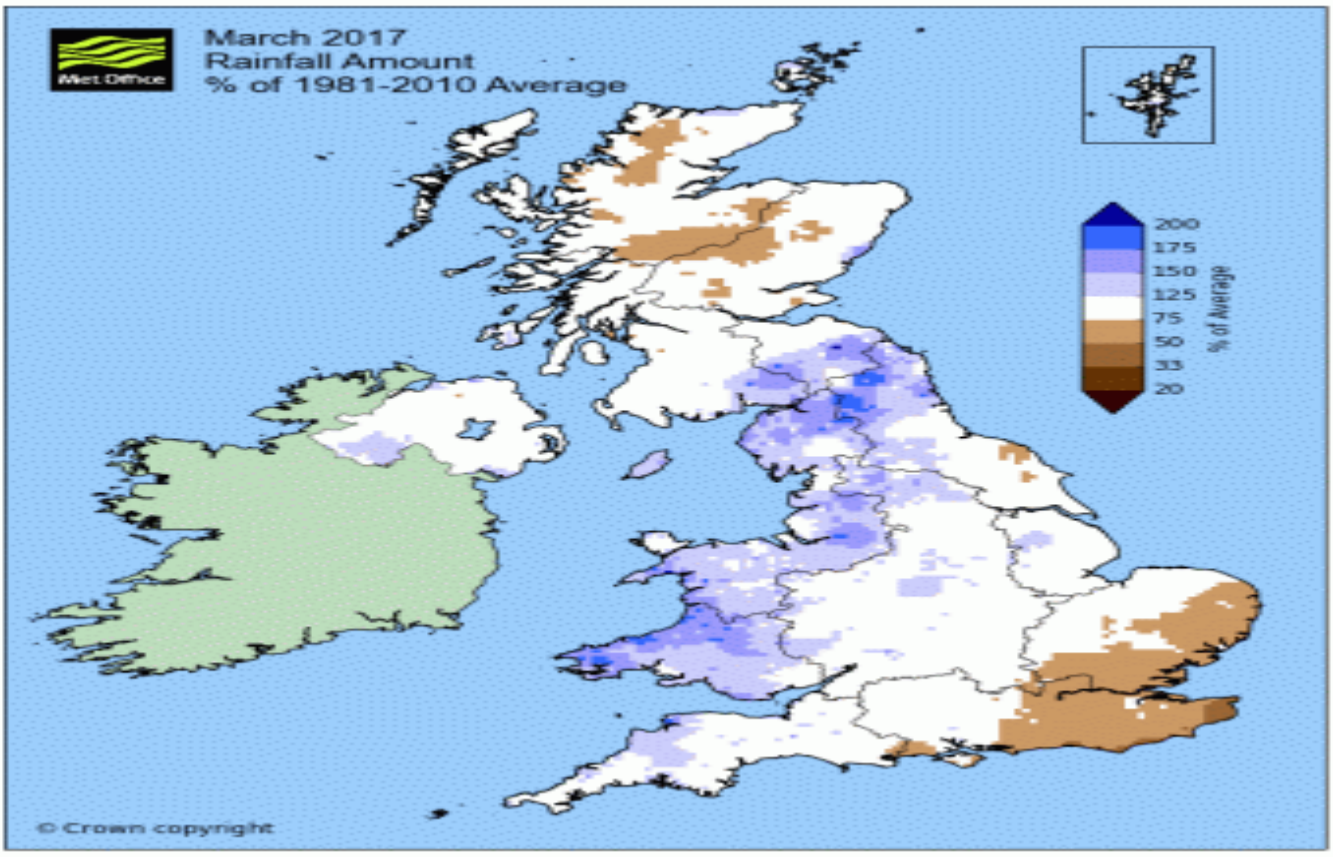
Description



Anglia had a mean temperature of 9.1°C, equal to 1938, while South East & Central Southern England recorded 9.2°C, equal to 1957. The UK as a whole recorded 7.3°C as its mean temperature for March 2017, equal with 1948 and cooler only than 1938, 1957, 1961, and 2012.

The highest temperature recorded in March was 22.1 °C at Gravesend, in Kent, on Thursday 30 March. Tim Legg, climate scientist in the Met Office’s National Climate Information Centre, said: “It is very rare to go above 22 °C in March, with only three years since 1968 recording 22 °C or above, these are: 17 March 1990, when 22.6 °C was recorded at High Beach; and 23.6 °C at Aboyne in 2012.

“After this we have to go way back to 29 March 1968, when we recorded 25.6 °C at Mepal in Cambridgeshire: currently the all-time March record.”



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The provisional rainfall map for March shows that the majority of the UK had around average rainfall, although Wales and north-west England were rather wetter. However, parts of South-Eastern England and northern and western Scotland received less rainfall than average , and for the UK as a whole it has been the driest Oct-Mar period since 1995/96.

Essex recorded the lowest total rainfall of any county in the UK, with just 26.3mm of rain falling, while Sussex received just 59% of its expected rainfall for the month (1981–2010 average).

As well as Scotland having just below the average rainfall for the month, it has also been the sixth sunniest March since 1929 with 123.8 hours of sunshine.

Provisional March 2017 data	Mean temp (°C)		Sunshine (hours)		Rainfall (mm)	
	Actual	Diff from avg (°C)	Actual	% of avg	Actual	% of avg
UK	7.3	1.8	122.7	121	99.1	104
England	8.4	2.2	125.7	117	70.4	110
Wales	7.5	1.7	101.6	100	164.7	141

Scotland	5.4	1.3	123.8	133	127.9	91
N Ireland	7.2	1.4	120.6	123	106.3	112

No named storms occurred during the month. However, as Tim Legg added: “The UK was fortunate not to be hit by a storm, which brought some exceptionally strong and damaging winds to northern France on 6 March.”

As always keep up to date with the weather in your area using our forecast pages, Twitter or Facebook , as well as using our new mobile app which is available for iPhone from the App store and for Android from the Google Play store. Search for “Met Office” in store.

Date Created
April 2017

Why is forecasting low cloud so difficult?

Description

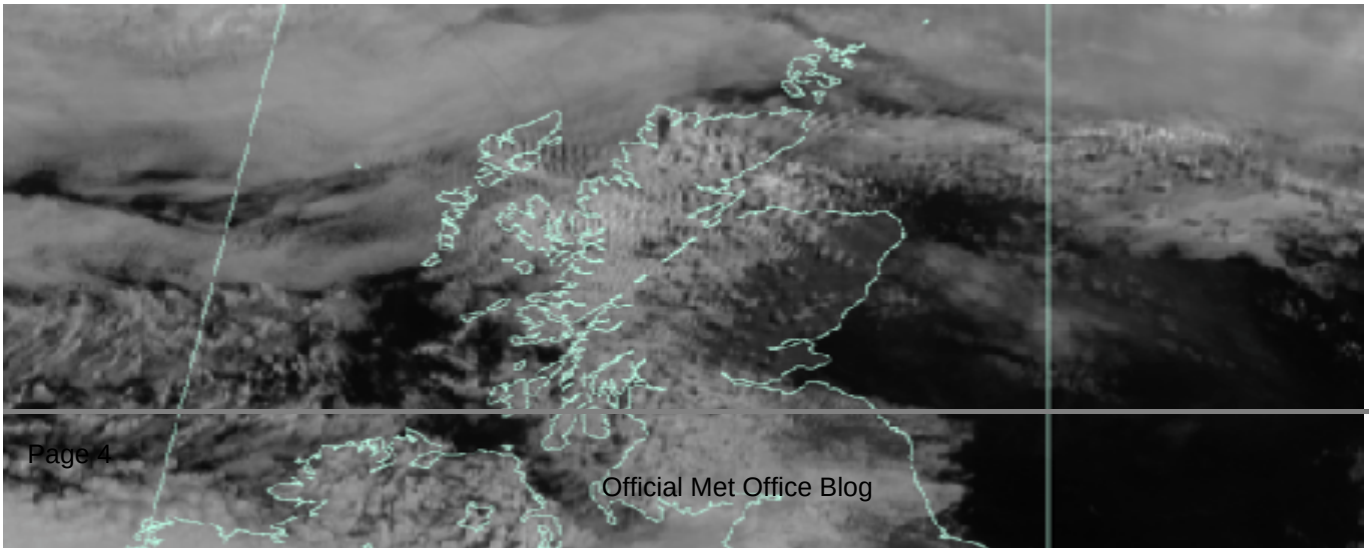
You may have been enjoying the sun these past few days, and noticed that some website and app forecasts have been somewhat more pessimistic with their predictions of the cloud cover. But why is something as fundamental as cloudy or sunny actually so difficult to forecast?

As with most weather forecasting, computer models are relied upon to produce accurate simulations of the atmosphere to guide cloud-cover forecasts. Because computer resources are finite, the model cannot simulate all the small-scale detail present in the real world, but “sees” the world as a pixellated image. For UK forecasting, the pixel sizes are 1.5km in the horizontal and around 100m in the vertical at the typical altitude of low clouds. Therefore clouds at these scales, or smaller, are very difficult to represent. Their formation, evolution and dissipation is controlled by “parametrizations” – the part of the model used to deal with processes acting on a smaller scale than the pixel size.

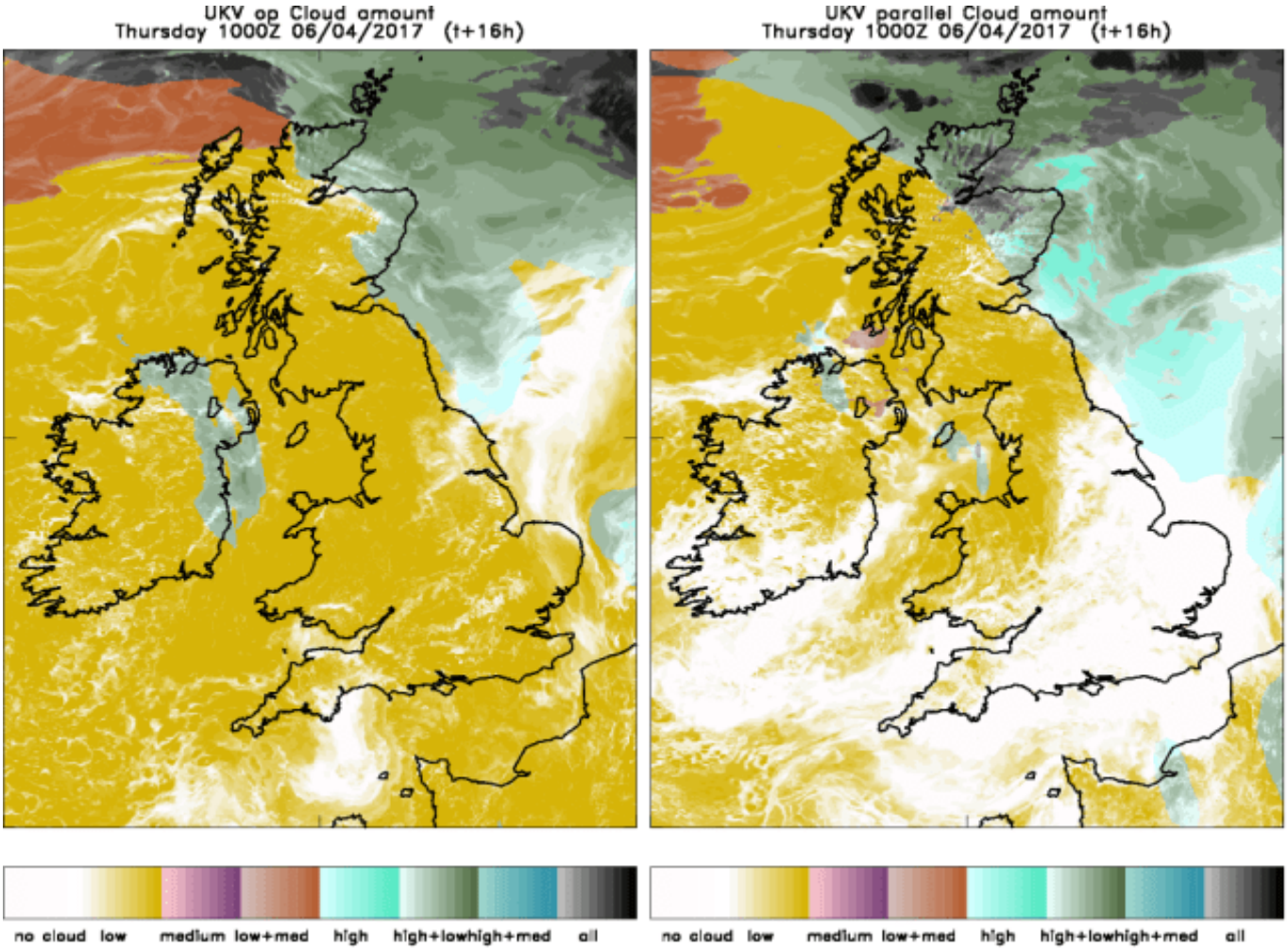
Low cloud, or stratocumulus, is particularly difficult because it requires many different parametrizations to interact correctly with each other to produce an accurate forecast. Turbulence, which can both enhance the cloud by mixing moist air from below and destroy the cloud by mixing dry air from above, must interact with solar and thermal radiation, which can directly modify the cloud by heating or cooling the atmosphere, and indirectly modify it by altering the turbulence in a feedback process. These processes must also interact correctly with the light winds and slowly subsiding air typically associated with high-pressure systems, which provide a weak, but important forcing of the cloud field.

Another aspect, which may have been relevant this past week, is how the model uses observations to initialise the forecasts – data assimilation. By far the best source of information on cloud cover is satellite imagery, but when (as has happened this week) low cloud is accompanied by high “cirrus” cloud, the satellite only sees the high cloud, making the full extent of the low cloud difficult to determine, particularly over the oceans. Only when the high cloud clears, or the low cloud reaches land, can the extent of any forecast differences be established and corrected within the model.

We continue to work on improving both the computer model, and methods used to initialise the forecasts from observations. As shown below, a current test model (right) including changes to both the parametrizations and data assimilation produced a much better cloud forecast than the operational model (left) when compared to the actual cloud coverage shown by visible satellite imagery. Improvements like these should filter through to forecasts in the near future.



Wednesday evening valid for the same time, using the current operational model (below left) and trial version for future implementation (below right). Clear skies are represented by white with coloured shading representing clouds.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Despite these complications, our forecasts still offer good guidance: we're consistently ranked as one of the top operational providers in the world for accuracy and we're trusted by 84% of the public to provide weather and climate services.

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Date Created
April 2017

Are the next three months going to be scorching?

Description

There are headlines in the media today suggesting the UK is in for “three months of sizzling weather”. It would appear these stories have been based, in part, on the latest Met Office three month outlook for contingency planners.

This outlook is designed to help planners in business and Government assess the level of risk connected to different weather scenarios. It does not however identify weather for a particular day or week – so is not that useful when you want to know, for example, which summer weekend looks good for an outdoor event.

As discussed previously, the outlook is not a normal weather forecast. It’s an outlook based on probabilities which assesses the likelihood of five different scenarios for both temperature and rainfall for UK as a whole for the next three months. It is based on the more probable prevailing weather patterns and has to be used in the right context.

It’s a bit like the science-equivalent of factoring the odds on a horse race and like any horse race it’s always possible the favourite won’t win. Users of the outlook are aware of the complexities and limitations of this type of forecast, and will include those factors in their decision making processes.

What does the current outlook for April-May-June 2017 say?

Signals from long-range prediction systems are relatively weak for the current 3 month period, consistent with a lack of large-scale global drivers. Overall, there is a slight increase in the likelihood of anticyclonic conditions. As a result of this, and the warmth being observed in many of the regions that act as sources for air travelling to the UK, there is an increased chance that the average temperature over April-May-June will be higher-than-normal.

However this far from implies the UK will predominantly experience warm, fine weather, and does not mean there can’t also be some colder spells. It is also important to remember that higher-than-average temperatures won’t necessarily feel like ‘good’ weather if it is also more cloudy, windy or wet than usual.

There is also a suggestion that drier-than-average conditions are slightly more likely than wetter-than-average but the signal is small and the likelihood of any extreme weather is close to normal during this period.

If you want a forecast for your area or are looking to plan up and coming activities head to our forecasts pages for a detailed 7 day forecast or a 30 day look ahead at weather trends.

Date Created
April 2017

Early April remains dry but some rain is on the horizon

Description

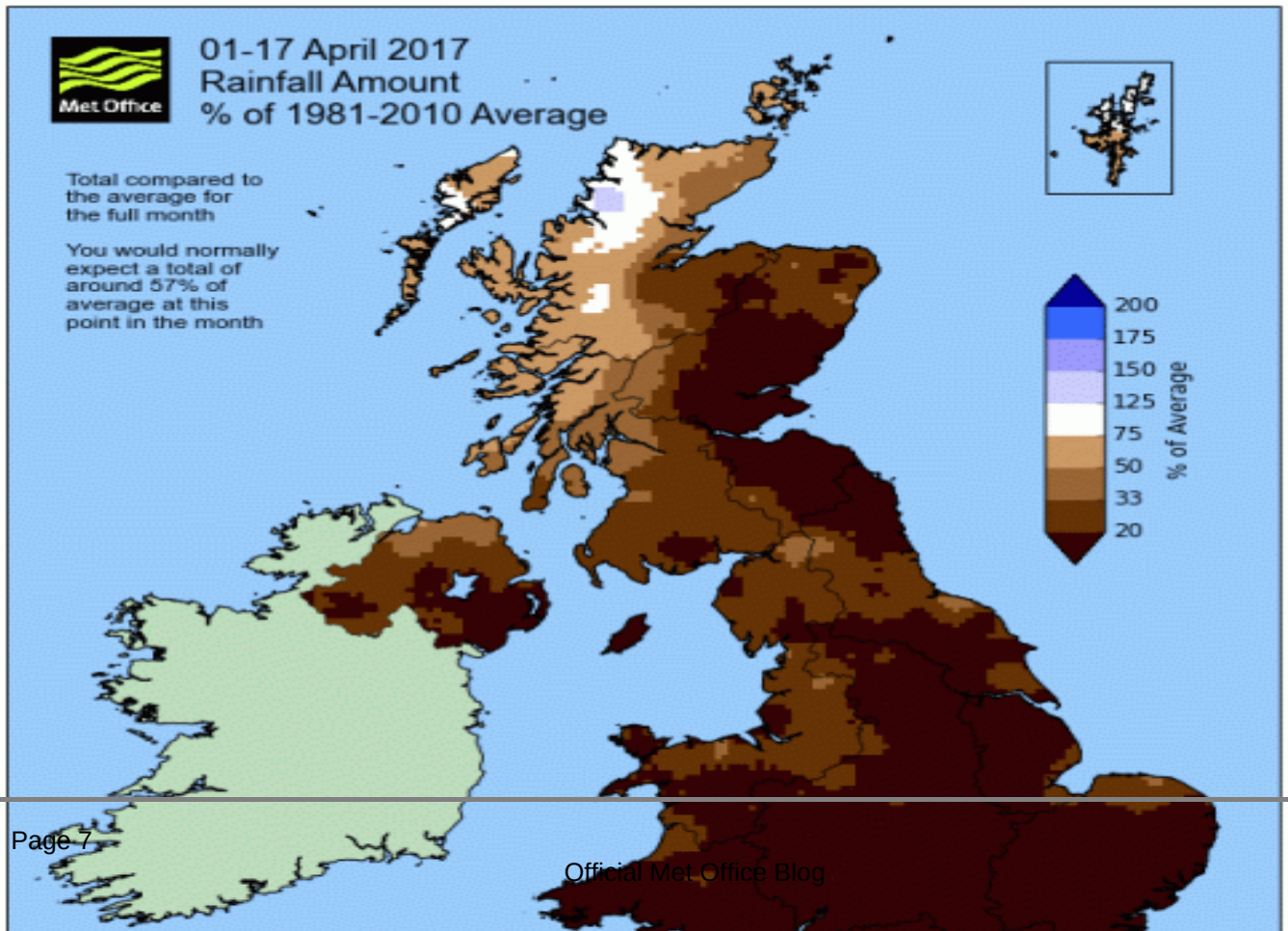
Preliminary mid-month statistics for April show the recent pattern of dry conditions has continued, particularly in the south, as high pressure has so far dominated the weather this month.

All regions in the UK, except northern Scotland, have so far experienced well under half of their average rainfall for the full month of April; the UK as a whole has had just over a quarter (26%) when compared with the average for the whole month (At the mid-month point you would normally expect to see around 57% of the full month average). The south of England has seen the least rainfall compared to its long-term average (1981–2010) with Middlesex being the historic county with the lowest rainfall volume: just 1mm.

Seven other English counties have seen only five per cent or less of the average rainfall for the whole of April so far: Berkshire, Buckinghamshire, Essex, Gloucestershire, Hertfordshire, Oxfordshire and Wiltshire. The wettest English historic county is Cumberland, where just over 20mm of rain has fallen so far this month, just over a quarter (26%) of the anticipated total for the month.

Northern Scotland is the only district with over half of its full-month average rainfall; it has received 63% of its April average so far.

Tim Legg, a climate scientist at the National Climate Information Centre, said: “The dry conditions for April so far follow a series of rather dry months through autumn and winter. For the UK as a whole it was the driest October-March period since 1995/96.”



Commenting on the dry weather, an Environment Agency spokesperson said: “Following a dry winter, some rivers, groundwaters and reservoirs are lower than normal for the time of year. We always advise that everyone use water wisely – especially during a period of dry weather – and to follow the advice of their water company should water saving measures be required. The Environment Agency, water companies, businesses and farmers are working together to minimise any potential impacts to people and the environment should the dry weather continue.”

There does look to be a break in the dry weather for the south by early next week as a stronger front looks likely to push southwards across the UK bringing the first meaningful rainfall to southern regions for around three weeks.

Alongside the low levels of precipitation, April has also seen above average sunshine hours so far with the UK already having seen 66% of its average sunshine by only halfway through the month. The sunniest region has been southern England which has had 121.1 hours of sunshine so far, three-quarters of its April average.

Mean temperatures are also above average, the UK being 1.1°C warmer than the long-term average. All regions and districts have been warmer than average with East Anglia experiencing a mean temperature 1.5°C above its long-term average.

Provisional 1-17 April 2017 data	Mean temp (°C)		Sunshine (hours)		Rainfall (mm)	
	Actual	Diff from avg (°C)	Actual	% of avg	Actual	% of avg
UK	8.5	1.1	98.3	66	19.2	26
England	9.4	1.2	112.9	73	7.6	13
Wales	8.5	0.8	104.7	68	13.6	15
Scotland	7.1	1.0	78.9	58	40.2	44
N Ireland	8.4	0.8	61.8	42	17.7	24

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Date Created
April 2017

Big data – big challenge

Description

The Met Office is facing new and increasing challenges because of the huge volume of data that we manage and produce. Alex Longden, who leads the team responsible for data provision for the data re-use community and private weather sectors, examines the situation in this blog.

The 335 million observations of data we store every day require huge computational capability. Our new supercomputer provides the processing power needed to manipulate the data in a timely and effective way. The complex numerical models developed by our scientists and meteorologists in turn create enormous data outputs, used for climate and weather prediction and by data users throughout the world to make weather outlooks more accurate than ever before.

The state of weather data infrastructure

The Met Office recognises that increases in observational and forecast data volumes have implications across both the public and private weather sectors. To understand this better, we recently partnered with the Open Data Institute, to carry out a review on 'The state of weather data infrastructure'.

The review is encouraging discussion on how the global weather data infrastructure can be sustainable, and continue to deliver value to society, as well as looking at the need for continuing investment in technical infrastructure and supercomputing resources. It also looks at the role of global, regional and national meteorological services in collecting observations and generating forecasts.

In addition, the review highlights the technology creating new data and in turn generating new, big data challenges. Supercomputing is enabling new and improved weather models which are harnessing a variety of sources of weather observations from ground, air, sea and space based monitoring and sensors. These trends exist within a wider landscape of innovation and changing consumer expectations where instant and real-time access to data is increasingly essential.

We are striving towards making our data more openly accessible and useful to realise the social economic benefits brought by the new supercomputer, which delivers ever increasing accuracy yet exponential increases in data volumes that makes this more challenging.

Date Created
April 2017

Early April statistics

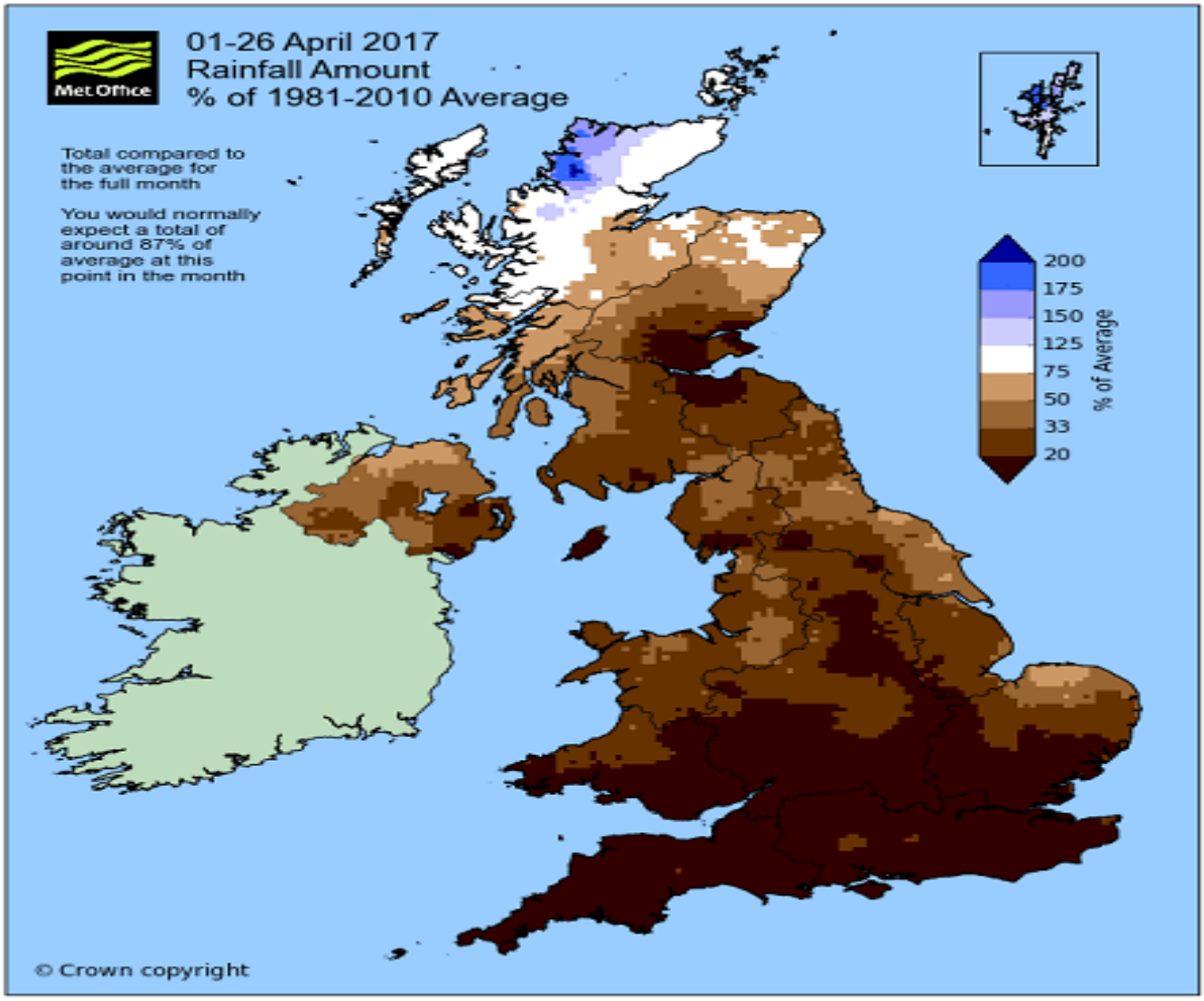
Description

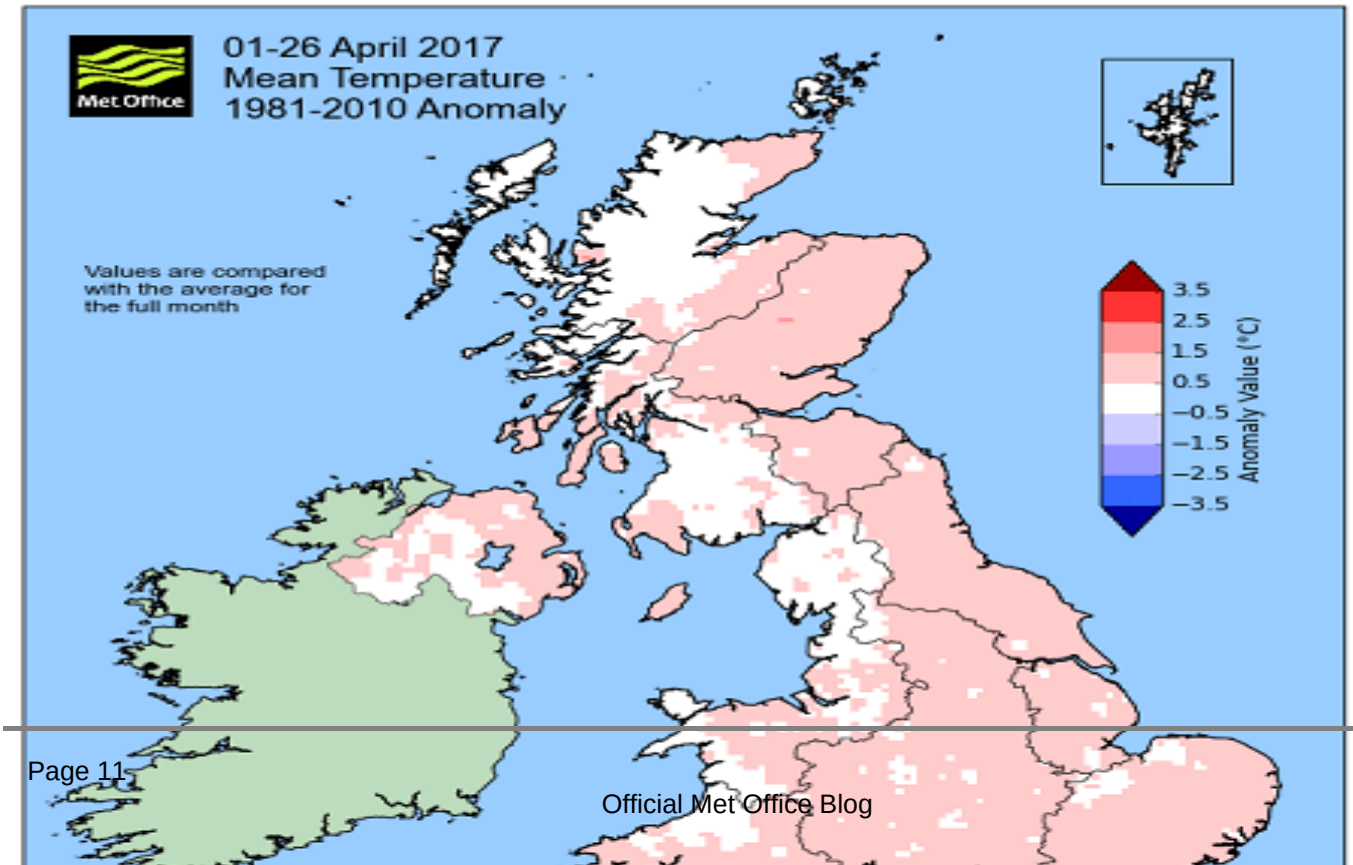
Early provisional statistics for April (1st-26th) show that overall it has also been a sunny and warm month so far compared to the long-term 1981-2010 average.

Following on from the mid-month statistics, Middlesex remains the driest historical county with 2.7mm of rainfall so far this month just 6% of the long-term average for April which is 45mm. In comparison Sutherland has so far been the wettest historical county with 130.8mm of rain, 41% above the expected monthly rainfall.

The UK as a whole has seen just 41% of the average April rainfall; the wettest region has been Scotland with 62.5mm and the driest southern England with 8.1mm.

It is likely many of the rainfall statistics will change as we expect an area of low pressure to move in from the south-west over the Bank Holiday weekend. As a weather front pushes eastwards across the UK on Sunday and Monday, we could see 10-15mm of rain in some areas, especially in the south-west. Read more about this weekend’s weather in our latest news release.





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all of the UK has already had the sunshine we would expect for the whole month, and there are still several days left to include in the statistics. Only Scotland and Northern Ireland are below the average with 88% and 63% respectively. The UK as a whole has already reached its monthly average with 148.4 hours of sunshine. The district with the most sunshine hours is the south east and central south of England with 188.3 hours of sunshine, 11% above the April average.

Early April	Mean Temp		Sunshine Hours		Precipitation	
1-26 2017	Actual	Diff to average	Actual hours	% of average	Actual	% of average
UK	8C	0.6%	148.4	100	29.7mm	41%
England	8.8C	0.7%	169.9	110	11.9mm	20%
Wales	8.2C	0.6%	161.0	104	18.4mm	21%
Scotland	6.6C	0.5%	119.4	88	62.5mm	69%
N. Ireland	8.2C	0.6%	92.7	63	27.8mm	37%

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